

REMARKS

Reconsideration and allowance of this application are respectfully requested.

Claims 1, 4-14, 17-22, 25-30 and 33-62 are pending. Claims 1, 14, 21, 30, 36, 37, 53 and 61 are independent.

Claims 1, 21 and 30 have been amended to recite the feature that the apparatus further comprises control means for performing gradational recording by controlling discharge of each of the plurality of inks with different dye densities based on an inputted multiple value. Claims 14 and 36 have been similarly amended. The amendatory language clarifies that gradational recording is performed by using a plurality of inks having different dye densities. See page 10, lines 1-12. Fig. 5 illustrates an arrangement for performing such gradational recording. Fig. 5 is further described in the specification at page 19, lines 6-16.

Section 112, first paragraph rejection

Claims 1, 4-14, 17-22, 25-30 and 33-36 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter not described in the specification. Applicants respectfully request reconsideration of this rejection. Applicants submit that the feature relating to different component ratios of a surface active component is sufficiently described at least at page 20, line 6 to page 23, line 17 of the specification.

Regarding Claim 36, Applicants submit that a dot formed by an ink having a high penetrability allows diffusion to occur more easily on a paper sheet, as compared with a dot formed by an ink having a low penetrability. Applicants therefore submit that on a recording medium, the diameter of a dot made by ink having a high density will be smaller than the diameter of a dot made by ink having a low density, because ink having a high density has a lower penetrability and ink having a low density has a higher penetrability. Applicants further submit that this can be recognized even when the ink has solidified on a paper sheet; and can be ✓ recognized in a printed article on which an image is formed. Applicants note that the above-mentioned difference in dot diffusion is illustrated in Figs. 9, 10 and the like as described in the first to third embodiments in the specification.

It is submitted that the claims comply with all aspects of Section 112, and withdrawal of this rejection is respectfully requested.

Section 101 rejection

Claim 36 was rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Applicants respectfully disagree with this rejection. The Examiner takes the position that the recorded article of

Claim 36 is considered printed matter, citing M.P.E.P.
§ 706.03(a).

The cases cited in M.P.E.P. § 706.03(a) do not support this interpretation of Section 101. Claim 36 is not directed to a mere arrangement of printed matter. Claim 36 relates to a recorded article on which the image is formed by inks that are characterized in that ink having a high dye density has low penetrability, and ink having a low dye density has high penetrability.

Accordingly, Applicants respectfully request withdrawal of the Section 101 rejection.

Section 103 rejections

Claim 36 was rejected under 35 U.S.C. § 103(a) as allegedly obvious over Matsumoto, et al. (U.S. Patent No. 4,860,026) in view of Suzuki (U.S. Patent No. 4,551,736) and Sugimoto, et al. (U.S. Patent No. 5,477,248). Claims 37-62 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Matsumoto, et al. in view of Suzuki, Sugimoto, et al. and Sekiya (JP 1-242256). Applicants respectfully request reconsideration of these rejections.

Before addressing the merits of these rejections, Applicants believe it will be helpful to review some features of the claimed invention.

Independent Claim 36 recites that, regarding inks having different dye densities in the same color category,

the penetrabilities of the thick (relatively high dye density) and the thin (relatively low dye density) inks are made different from each other by differentiating the ratio of the surface active agent for thick and thin inks. Independent Claims 37, 53 and 61 recite a plurality of inks that have different dye densities and are divided and held in the same ink container. Applicants submit that the claimed invention is neither taught nor suggested by the cited references.

Matsumoto, et al. discloses the use of plural inks having different densities in the same color category.

Suzuki discloses a technique for making the penetrabilities of plural inks having different densities in the same color category substantially equal, so as to make the dot diameters of thick and thin inks equal.

Sugimoto, et al. discloses the differentiation of the penetrabilities of inks according to color. For example, black ink has a lower penetrability than yellow ink.

Sekiya discloses a structure for containing plural inks in a partitioned container. Sekiya is not, however, directed to plural inks having different densities in the same color category.

- ✓ Applicants submit that none of the cited references
- ✓ discloses or suggests the claimed arrangement for
- ✓ differentiating the penetrabilities of plural inks having
- ✓ different densities in the same color type.

Applicants consider the claimed invention to be contrary to the teachings of Suzuki: Suzuki makes the penetrabilities of plural inks (of different dye densities) substantially equal, while the present invention makes the penetrabilities of plural inks (of different dye densities) different. And Applicants further submit that the invention does not relate to the structure for differentiating penetrabilities between different colors as disclosed by Sugimoto, et al.

Applicants note that the claimed invention provides good reproducibility of gradation at a boundary portion between a portion represented by ink having a high density and a portion represented by ink having a low density in the case where gradation representation is performed by using inks having a high density and a low density.

Applicants conclude that Claims 36-62 are not rendered obvious by the cited references, either singly or in the combinations proposed by the Examiner. Applicants therefore respectfully request reconsideration and withdrawal of the Section 103 rejections.

Conclusion

For the foregoing reasons, Applicants submit that the present invention is patentably defined by the independent claims. The dependent claims are also submitted to be patentable because they set forth additional aspects of

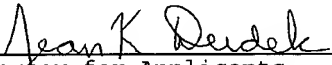
the present invention and are dependent from the independent claims. Separate and individual consideration of each dependent claim is respectfully requested.

Entry of this Amendment After Final Rejection is believed to be proper. No new issues are raised by the amendments presented, and no new claims have been added. At a minimum, the claims are now in better condition for appeal. Entry is solicited.

Applicants submit that this application is in condition for allowance and a Notice of Allowance is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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